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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,423	12/27/2001	Arttu Laitinen	FORSAL-31	1369

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,423

Applicant(s)

LAITINEN ET AL.

Examiner

Marc Jimenez

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-18 and 27 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of **Group I, Claims 1-18 and 27** in Paper No. 7 is acknowledged. Applicant has canceled the non-elected claims 19-26 and 28-33.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The title and abstract of the invention is not descriptive. A new title and abstract are required that is clearly indicative of the invention to which the claims are directed (ie. the method claims).

Claim Objections

4. Claims 1, 4, 8, 18, and 27 objected to because of the following informalities: "mould" should be changed to - - mold - - in all instances. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3726

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-3, 15, 17, and 27** are rejected under 35 U.S.C. 102(b) as being anticipated by Takada et al. (JP 56-87609).

Regarding claim 1, Takada et al. teach a method of making a roll end **2**, the roll end **2** comprising a whole having an axle journal **1** with an end flange (The surface to the immediate left of lead line **3a** is considered “an end flange”. It is noted that the configuration of the journal **1** and wall surface to the left of lead line **3a** of Takada et al. is considered “an end flange” similar to what the U.S. 6,158,501 patent to Koivukunnas describes as a flange at **2** and col. 5, line 18-19. The Koivukunnas reference is cited in the attached PTO-892.), as well as a duct system **9,10** situated inside the material of the roll end, the method comprising making the roll end by a powder metallurgy process (constitution, line 13 and lines 17-18) in a mould **3** such that the duct system **9,10** has portions within the end flange of the roll end **2**, the duct system **9,10** end flange portions being formed in connection with the stage of making the roll end **2** by the powder metallurgy process (constitution, line 13 and lines 17-18).

Regarding claim 2, the portions **9** of the duct system **9,10** are formed in the axle journal **1** of the roll end **2** in connection with the stage of making the roll end **2** by the powder metallurgy process (constitution, line 13 and lines 17-18).

Regarding claim 3, “hot hydrostatic pressing” described by Takada et al. in lines 17-18 of the constitution is the same as “hot isostatic pressing”. See the definition of “isostatic” and also U.S. 5,051,218 to Matthews both documents are cited in the attached PTO-892 who teaches “hydrostatic (isostatic)” in col. 7, line 5.

Regarding claim 15, the duct system 9,10 is formed of a pipe system 10 made out of seamless pipe or hollow bar.

Regarding claim 17, Takada et al. teach forming a roll end blank 2 in the powder metallurgy process (constitution, line 13 and lines 17-18), dismantling, breaking or machining off (constitution, lines 19-20) the mould 3 from the blank 2, and machining the blank 2 into a desired shape and dimensions (constitution, lines 20-22).

Regarding claim 27, Takada et al. teach placing a duct system 9,10 comprised of a plurality of connected pipes (see the parallel pipes 10 in fig. 1) within a mould 3, filling the mould 3 around the duct system 9,10 with a metal powder 4, applying heat and pressure (purpose, lines 7-8) to the metal powder 4 within the mould to form the metal powder 4 into a desired shape, and removing (constitution, lines 19-20) the mould 3 from the roll end 2, in which the duct system 9,10 comprises at least one duct 9 extending through the an axle journal 1 of the roll end 2, and at least one duct 10 connected to the axle journal duct 9, which extends through an end flange (see the area to the left of lead line 3a) of the roll end 2, the duct system 9,10 being intended for conveyance of a heat transfer medium (purpose, lines 2-3) from the exterior of the roll end into the roll end 2.

Regarding the limitations that the roll is for a roll in a paper or board machine or in a finishing machine, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a **process of making**,

Art Unit: 3726

the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. in view of Flasche et al. (4,916,281).

Takada et al. teach the invention cited with the exception of welding the pipes to make a finished construction.

Flasche et al. teach that it is known to weld pipes together (col. 4, lines 29-37).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Takada et al. with the step of welding the pipes to make a finished construction, in light of the teachings of Flasche et al., in order to create a pipe system of the desired length by connecting pipes together.

9. **Claims 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. in view of Koivukunnas (6,158,501).

Takada et al. teach the invention cited with the exception of having at least one encased

Art Unit: 3726

cavity formed on a pipe positioned within the axle journal by a closed sleeve disposed on the at least one pipe, wherein the cavity is left empty and provided with a vacuum by suction.

Koivukunnas teaches at least one encased cavity **14** formed on a pipe **11** positioned within the axle journal **3** by a closed sleeve **12** disposed on the at least one pipe **11**. The cavity **14** is left empty and provided with a vacuum by suction (col.5, lines 53-62).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Takada et al. with at least one encased cavity formed on a pipe positioned within the axle journal by a closed sleeve disposed on the at least one pipe, wherein the cavity is left empty and provided with a vacuum by suction, in light of the teachings of Koivukunnas, in order to provide an insulating layer for the pipe (as suggested by Koivukunnas at col. 1, lines 20-21) and in order to impart a good thermal insulation capability to a space sealed to such a vacuum (as suggested by Koivukunnas at col. 5, lines 61-62).

10. **Claims 11-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al.

Takada et al. teach the invention cited with the exception of using a high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite.

At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have used a high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite because applicant has not disclosed that using a

Art Unit: 3726

high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally as well with either the metal powder taught by Takada or the claimed metal powder, because both metal powder performs the same function of encapsulating a pipe equally well. Therefore, it would have been an obvious matter of design choice to modify Takada et al. to obtain the invention as specified in claims 11-14. Furthermore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have selected the claimed material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

11. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. in view of Tsujimura et al. (5,022,936).

Takada et al. teach the invention cited with the exception of using austenitic stainless steel for the pipe material.

Tsujimura et al. teach welding using an austenitic stainless steel pipe **5a** as a pipe material (col. 3, lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Takada et al. with austenitic stainless steel for the pipe

Art Unit: 3726

material, in light of the teachings of Tsujimura et al., in order to provide a suitable pipe material that will not rust easily.

12. **Claims 1-3, 11-15, 17, 18, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinz-Michael (6,039,681) in view of Takada et al.

Heinz-Michael teaches a method of making a roll end for a roll in a paper or board machine or in a finishing machine (col. 1, lines 6-8), the roll end comprising a whole having an axle journal **2** with an end flange **9**, as well as a duct system **7** situated inside the material of the roll end, the method comprising making the roll end such that the duct system **7** has portions within the end flange **9** of the roll end, the duct system end flange portions **2** being formed in connection with the stage of making the roll end.

Heinz-Michael teaches the invention cited with the exception of forming the end by a powder metallurgy process and forming portions of the duct system in the axle journal of the roll end in connection with the stage of making the roll end by the powder metallurgy process, wherein the roll end is made by a hot isostatic process, dismantling, breaking or machining off the mould from the blank, and machining the blank.

Takada et al. teach forming an end by a powder metallurgy processes (constitution, line 13 and lines 17-18) and forming portions of the duct system in the axle journal of the roll end in connection with the stage of making the roll end by the powder metallurgy process, wherein the roll end is made by a hot isostatic process ("hot hydrostatic pressing" described by Takada et al. in lines 17-18 of the constitution is the same as "hot isostatic pressing". See the definition of "isostatic" and also U.S. 5,051,218 to Matthews, both documents are cited in the attached PTO-

Art Unit: 3726

892 who teaches “hydrostatic (isostatic)” in col. 7, line 5), dismantling, breaking or machining off (constitution, lines 19-20) the mould **3** from the blank **2**, and machining the blank **2** into a desired shape and dimensions (constitution, lines 20-22).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Heinz-Michael with the steps of forming the end by a powder metallurgy process and forming portions of the duct system in the axle journal of the roll end in connection with the stage of making the roll end by the powder metallurgy process, wherein the roll end is made by a hot isostatic process, dismantling, breaking or machining off the mould from the blank, and machining the blank, in light of the teachings of Takada et al., in order to simultaneously form the duct system while forming the roll end.

Regarding claims 11-14, Heinz-Michael/Takada et al. teach the invention cited with the exception of using a high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite. At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have used a high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite because applicant has not disclosed that using a high-alloy of gas-atomised medium-carbon tempering steel powder for the metal powder or a powder material that conducts heat more poorly than steel being a metal matrix composite provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally as well with either the metal powder taught by Takada or the claimed metal powder,

Art Unit: 3726

because both metal powder performs the same function of encapsulating a pipe equally well.

Therefore, it would have been an obvious matter of design choice to modify Heinz-

Michael/Takada et al. to obtain the invention as specified in claims 11-14. Furthermore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have selected the claimed material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

Regarding claim 18, note the bores in the shell 4 of Heinz-Michael.

13. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heinz-Michael in view of Takada et al. as applied to claim 1 above, and further in view of Flasche et al.

Heinz-Michael/Takada et al. teach the invention cited with the exception of welding the pipes to make a finished construction.

Flasche et al. teach that it is known to weld pipes together (col. 4, lines 29-37).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Heinz-Michael/Takada et al. with the step of welding the pipes to make a finished construction, in light of the teachings of Flasche et al., in order to create a pipe system of the desired length by connecting pipes together.

Art Unit: 3726

14. **Claims 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinz-Michael in view of Takada et al. as applied to claim 1 above, and further in view of Koivukunnas.

Heinz-Michael/Takada et al. teach the invention cited with the exception of having at least one encased cavity formed on a pipe positioned within the axle journal by a closed sleeve disposed on the at least one pipe, wherein the cavity is left empty and provided with a vacuum by suction.

Koivukunnas teaches at least one encased cavity **14** formed on a pipe **11** positioned within the axle journal **3** by a closed sleeve **12** disposed on the at least one pipe **11**. The cavity **14** is left empty and provided with a vacuum by suction (col.5, lines 53-62).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Heinz-Michael/Takada et al. with at least one encased cavity formed on a pipe positioned within the axle journal by a closed sleeve disposed on the at least one pipe, wherein the cavity is left empty and provided with a vacuum by suction, in light of the teachings of Koivukunnas, in order to provide an insulating layer for the pipe (as suggested by Koivukunnas at col. 1, lines 20-21) and in order to impart a good thermal insulation capability to a space sealed to such a vacuum (as suggested by Koivukunnas at col. 5, lines 61-62).

15. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Heinz-Michael in view of Takada et al. as applied to claim 15 above, and further in view of Tsujimura et al.

Heinz-Michael/Takada et al. teach the invention cited with the exception of using austenitic stainless steel for the pipe material.

Tsujimura et al. teach welding using an austenitic stainless steel pipe **5a** as a pipe material (col. 3, lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Heinz-Michael/Takada et al. with austenitic stainless steel for the pipe material, in light of the teachings of Tsujimura et al., in order to provide a suitable pipe material that will not rust easily.

Allowable Subject Matter

16. **Claims 8-10** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 8-10, the prior art of record does not teach or suggest a method of making a roll end with the steps of the pipe system being coated on a pipe outside with a heat insulating coating layer before the pipe system is disposed in the mould in combination with all of the other claim limitations.

Contact Information

18. Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining

Art Unit: 3726

groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is **703-306-5965**. The examiner can normally be reached on **Monday-Friday, between 5:30 am- 2:00 pm**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 703-308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

Allowed Files & Publication	(703) 308-6789 or (888) 786-0101
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Application/Control Number: 10/034,423

Page 14

Art Unit: 3726

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A handwritten signature in black ink, appearing to read "Marc Jimenez", with a stylized flourish at the end.

Marc Jimenez
Patent Examiner
AU 3726

MJ

September 5, 2003